

much suffering from the drought was reported, with rapid maturity; 50 to 75 per cent of the crop in Kansas was reported to have passed the stage where rain could benefit.

Cotton.—During the first decade cotton made mostly good progress in the Carolinas and Georgia, except that it was too wet in parts and too dry in other sections. Advance varied considerably in the central parts of the belt, ranging from deterioration to very good, and in some southern districts blooming was reported as practically ceased and plants shedding badly. Conditions were unfavorable in Louisiana, but in Arkansas progress was good to excellent. Advance was fairly good in Oklahoma, but rain was needed, while in Texas progress was mostly poor, except in the northwest; heat and drought caused premature opening and some shedding. During the second decade conditions continued generally favorable in the Carolinas; but it was too wet in parts of Florida and Georgia, while in Alabama and Mississippi progress ranged from deterioration to good. Growth was slow in Louisiana and fruiting much diminished; unfavorable droughty conditions continued in western Arkansas, but elsewhere in that State advance ranged from fair to excellent. Growth was rather poor in Oklahoma due to need of rain, while in Texas cotton mostly deteriorated, with heat and drought causing premature opening and

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WEATHER OF THE ATLANTIC AND PACIFIC OCEANS

NORTH ATLANTIC OCEAN

By F. A. YOUNG

August was another unusually quiet month over the North Atlantic, and up to time of writing only 15 vessels have forwarded storm reports, while only 3 of these reported winds as high as force 9.

As shown in Table 1, there were no unusually large pressure departures at any of the land stations given. The North Atlantic HIGH was well developed during the first half of the month, as also was the Icelandic Low during the greater part of the first decade.

Fog was again very prevalent, being reported on from 5 to 10 days off the American coast, north of the Virginia Capes; on 9 to 17 days over the Grand Banks, and on from 7 to 12 days over the middle and eastern sections of the steamer lanes.

Charts VIII to XI cover the period from the 1st to 4th and Charts XII to XV from the 7th to 10th. These charts are presented to give an idea of the weather encountered by the airship *Graf Zeppelin* during the flights from Germany to the United States and return.

On the 1st and 2d an area of low pressure was over the Province of Quebec and another off the coast of Great Britain, although both were accompanied by moderate weather only. On the 3d the eastern disturbance was central near Stornoway, Scotland, and on that day moderate gales were reported by vessels in the westerly and southerly quadrants. By the 4th the western Low was central near Halifax, and the New York Weather Bureau station reported a NW. wind, force 8.

From the 5th to 18th, judging from reports received, there ensued a period of remarkably favorable weather, with an area of high pressure over a large section of the ocean during the greater part of the period, although one vessel encountered a moderate gale on the 5th, as shown in table.

On the 19th a moderate disturbance was central near 58° N., 18° W., that moved but slightly during the next three days, and westerly to southwesterly winds were

shedding. During the last decade conditions remained generally unchanged east of the Mississippi River and in Louisiana and Arkansas. Progress of cotton was good in parts of the extreme West and the Panhandle of Texas, but elsewhere rather general deterioration continued, with plants opening prematurely and shedding. Deterioration continued in Oklahoma, with further complaints of shedding, blooming nearly stopped, and bolls small and opening prematurely.

Miscellaneous crops.—Meadows, pastures, and ranges were rather seriously in need of rain at the close of the month, due to the continued drought, and especially so in the Northwest where there were reports of water holes drying and livestock being shipped out. Livestock held up well generally, however, although there were some reports of feeding dairy stock locally. Haying was favored throughout the month, with much saved.

Truck crops also needed rains generally, with moisture urgent in places to save the late potato crop. Setting some winter truck had begun in Florida at the close of the month. Tobacco cutting advanced in Kentucky, although at the end of the month cutting was being forced in the Burley area. Mostly excellent weather for sugarcane prevailed in Louisiana and sugar beets did well throughout the month. Citrus were favored generally.

reported from the 19th to 22d by vessels north of the 50th parallel and east of the 25th meridian.

TABLE 1.—Averages, departures, and extremes of atmospheric pressure at sea level, 8 a. m. (seventy-fifth meridian). North Atlantic Ocean, August, 1929

Stations	Average pressure	Departure	Highest	Date	Lowest	Date
	Inches	Inch	Inches		Inches	
Julianehaab, Greenland.....	29.87	(2)	30.16	29th.....	29.56	19th.
Belle Isle, Newfoundland.....	29.86	± 0.03	30.08	11th ¹	29.52	6th.
Halifax, Nova Scotia.....	30.01	± 0.04	30.18	9th ¹	29.72	2d.
Nantucket.....	29.98	± 0.04	30.26	17th ¹	29.46	4th.
Hatteras.....	29.99	± 0.05	30.28	21st.....	29.70	4th.
Key West.....	29.99	± 0.03	30.04	2d ¹	29.86	28th.
New Orleans.....	30.01	± 0.01	30.12	17th ¹	29.90	13th. ¹
Cape Gracias, Nicaragua.....	29.89	± 0.00	29.94	8th.....	29.84	14th. ¹
Turks Island.....	30.06	± 0.02	30.10	2d ¹	30.00	24th.
Bermuda.....	30.17	± 0.03	30.30	17th.....	30.04	12th.
Horta, Azores.....	30.20	± 0.04	30.42	5th.....	29.94	18th.
Lerwick, Shetland Islands.....	29.75	± 0.05	30.12	26th.....	29.41	4th.
Valencia, Ireland.....	29.98	± 0.06	30.28	18th.....	29.54	31st.
London.....	30.00	± 0.02	30.28	19th.....	29.50	1st.

¹ Average of 28 observations.

² No normal available.

³ From normals shown on Hydrographic Office Pilot Chart, based on observations at Greenwich mean noon, or 7 a. m., seventy-fifth meridian time.

⁴ And on other date or dates.

⁵ From normals based on 8 a. m. observations.

On the 19th a tropical disturbance of limited extent and intensity was central near St. Lucia in the Windward Islands. This moved slowly westward, apparently causing but little damage, and on the 22d was central some distance northwest of Grand Cayman Island. No reports of heavy weather have been received from any vessels within the limits of this disturbance.

On the 26th a fairly well-developed disturbance was central near 56° N., 25° W., and one vessel in the westerly quadrant experienced a northerly wind, force 9.

On the 31st Halifax was near the center of a Low of limited extent, and on the same date a second depression was central near 48° N., 25° W., while moderate gales were reported near the centers of both.

According to a special report received, severe storms occurred in the vicinity of the Black Sea on the 27th and 31st, respectively.

Waterspout.—American steamship *Excellency*, Capt. C. D. Hermanson; observer, R. Lindquist, second mate. Gibraltar to New York:

On August 2d at 6:10 p. m. (9:15 p. m., G. C. T.) observed a small waterspout in 41° 31' N., 40° 50' W. Barometer 30.34 inches. Temperature of air 78°. Atmosphere clear. Wind WSW., 3. Clouds cu.-nb. 3. The waterspout did not appear to reach the level of the sea, but there was a marked disturbance on the surface. As the clouds were moving rapidly, cloud and waterspout disappeared over the horizon in about five minutes after the latter was sighted.

OCEAN GALES AND STORMS, AUGUST, 1929

Vessel	Voyage		Position at time of lowest barometer		Gale began	Time of lowest barometer	Gale ended	Lowest barometer	Direction of wind when gale began	Direction and force of wind at time of lowest barometer	Direction of wind when gale ended	Highest force of wind and direction	Shifts of wind near time of lowest barometer
	From—	To—	Latitude	Longitude									
NORTH ATLANTIC OCEAN													
Saco, Am. S. S.	Rotterdam	New York	29 61 N.	50 00 W.	Aug. 3.	4 a., 4	Aug. 4.	29.55	SW	W, 6	NW	NW, 9	SW.-W.-NW.
West Zeda, Am. S. S.	Galveston	Rotterdam	39 30 N.	60 00 W.	4	5 p., 4	5	29.78	SSW	SSW, 8	SW	SSW, 8	Steady.
Balsam, Am. S. S.	New York	Glasgow	40 55 N.	54 08 W.	5	Noon, 5	5	29.98	S	S, 7	S	S, 8	Do.
Sarcosie, Am. S. S.	Havre	New York	49 43 N.	13 46 W.	6	Noon, 6	6	29.81	NW	NW, 6	N	N, 8	Do.
Inkum, Br. S. S.	North Shields	do.	58 13 N.	17 13 W.	18	8 a., 19	20	29.77	WSW	WSW, —	W	—, 8	WSW.-WNW.
City of Flint, Am. S. S.	Hull	Philadelphia	56 45 N.	27 54 W.	21	8 a., 22	22	29.55	W	W, 8	WNW	—, 8	W.-WNW.
Yselhaven, Du. S. S.	Emden	New York	58 49 N.	16 55 W.	21	10 a., 22	23	29.39	WSW	WSW, 8	W	WSW, 8	Steady.
Cameronia, Br. S. S.	Glasgow	do.	54 39 N.	25 06 W.	26	8 p., 26	27	29.43	W	W, 3	N	NW, 8	W.-NW.
Albatross II, U. S. S.	Nantucket	Bermuda	37 24 N.	66 37 W.	28	Noon, 28	28	29.89	SW	SW, 8	WSW	SW, 8	SW.-WSW.
Exchange, Am. S. S.	Gibraltar	Boston	42 55 N.	46 21 W.	29	5 p., 29	29	29.91	SSW	SSW, 8	W	SSW, 8	Steady.
West Loquassuck, Am. S. S.	Port Said	New York	38 33 N.	68 48 W.	30	Noon, 30	30	29.81	NE	NE, 8	NNE	NE, 8	Do.
Glorinia, Br. S. S.	Philadelphia	Hamburg	46 54 N.	29 00 W.	30	8 a., 31	31	29.47	S	E, 7	NNE	E, 8	
Examelia, Am. S. S.	Seville	New York	40 50 N.	60 31 W.	31	Noon, 31	Sept. 1.	29.81	S	SW, —	W	—, 9	
Anacortes, Am. S. S.	Hull	Philadelphia	49 30 N.	48 48 W.	31	11 p., 31	1	29.96	SW	—, 9	SE	—, 9	SE.-SW.
Exchange, Am. S. S.	Gibraltar	Boston	42 50 N.	56 10 W.	31	11 a., 31	1	29.69	SW	SW, 7	WNW	W, 8	SW.-WNW.
NORTH PACIFIC OCEAN													
Mobile City, Am. S. S.	San Pedro	Balboa	20 34 N.	107 05 W.	Aug. 2.	4 a., 3	Aug. 3.	29.77	ESE	ESE, 7	SE	ESE, 8	ESE.-SE.
Do.	do.	do.	17 10 N.	101 28 W.	5	8 a., 5	5	29.78	SE	SE, 8	ESE	ESE, 8	ESE.-SE.
Sylvan Arrow, Am. S. S.	do.	do.	18 06 N.	103 58 W.	2	6 a., 2	3	29.78	E	E, 8	SE	E, 8	2 pts.
Tongking, Dan. M. S.	San Francisco	do.	18 43 N.	103 34 W.	2	4 a., 2	4	29.76	E	E, 5	S	E, 8	E.-S.
Ontariolite, Can. M. S.	Talara, Peru	Vancouver	18 26 N.	106 24 W.	5	—, 6	6	28.80	N	WNW, 12	S	WNW, 12	WNW.-SW.
Admiral Peoples, Am. S. S.	San Francisco	Portland	40 08 N.	124 23 W.	9	Noon, 9	9	29.84	NW	NW, 9	N	NW, 9	Steady.
Admiral Watson, Am. S. S.	Seattle	Kodiak	56 26 N.	132 36 W.	16	3 p., 16	17	29.88	SE	SE, 8	SE	SE, 9	Do.
Wisconsin, Am. S. S.	Portland	Shanghai	49 20 N.	170 46 E.	18	2 a., 18	19	29.44	S	S, 7	S	S, 8	S.-SSE.
Golden Hind, Am. S. S.	San Francisco	do.	31 07 N.	172 13 E.	21	—, 21	23	29.29	ENE	ESE, 9	S	SSE, 10	ENE.-ESE.
New York, Am. S. S.	Hong Kong	San Francisco	45 06 N.	170 35 E.	25	Mdt., 25	26	29.12	SSE	SSE, —	SW	ESE, 10	ESE.-SSW.
Tatsuno Maru, Jap. S. S.	San Francisco	Balboa	17 15 N.	101 40 W.	29	4 p., 29	30	29.80	ENE	E, 8	E	E, 9	E.-SSW.
Chickasaw City, Am. S. S.	Los Angeles	do.	17 24 N.	101 53 W.	29	10 a., 29	30	29.70	E	E, 6	E	E, 8	E.-ESE.
Moerdijk, Du. S. S.	Colon	Los Angeles	18 08 N.	104 14 W.	29	8 a., 30	30	29.42	ESE	NW, 9	NE	NE, 9	Backing.
Canadian Miller, Can. S. S.	Victoria	Balboa	18 22 N.	104 00 W.	30	10 a., 30	30	29.60	E	ESE, 9	SW	ESE, 9	ESE.-S.
Tsuyama Maru, Jap. S. S.	Balboa	Los Angeles	17 20 N.	101 30 W.	29	4 a., 30	31	29.72	SSE	SE, 8	E	SSE, 9	
Hampstead, Br. S. S.	Vladivostok	Puget Sound	48 49 N.	174 00 E.	28	2 p., 30	31	29.13	E	N, 5	NE	N, 8	N.-NE.
SOUTH PACIFIC OCEAN													
Maunganui, Br. S. S.	Sydney	San Francisco	21 10 S.	159 50 W.	17	6 p., 17	19	29.92	SE	E, 9	SSE	E, 9	E.-SE.
SOUTH ATLANTIC OCEAN													
Chincha, Am. S. S.	Delagoa Bay	Rio de Janeiro	29 12 S.	16 10 W.	9	1 a., 9	11	29.78	WSW	WSW, 11	SSW	WSW, 11	WSW.-SSW.

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NORTH PACIFIC OCEAN

By WILLIS E. HURD

During August the California-Pacific anticyclone extended abnormally far into higher latitudes, and on the average for the month embraced even the eastern part of the Aleutian Islands area, the pressure at Dutch Harbor showing the extraordinarily high figure of 30.04 inches. On several days, however, cyclones of moderate intensity crossed the upper Pacific, or fluctuated over the Gulf of Alaska and neighboring coast waters of Canada and the United States.

The average center of the Aleutian cyclone which was very shallow, as in July, lay in the vicinity of Kodiak.

Barometric data for several island and coast stations in west longitudes, including Point Barrow in the Arctic Ocean, are given in the following table:

TABLE 1.—Averages, departures, and extremes of atmospheric pressure at sea level at indicated hours, North Pacific Ocean and adjacent waters, August, 1929

Stations	Average pressure	Departure from normal	High-est	Date	Low-est	Date
Point Barrow ¹	Inches 29.89		Inches 30.30	22d	Inches 29.42	10th.
Dutch Harbor ^{1, 2}	30.04	+0.14	30.48	22d	29.60	2d.
St. Paul ¹	29.93	+0.17	30.48	22d	29.38	26th.
Kodiak ¹	29.88	+0.03	30.16	20th	29.42	18th.
Midway Island ^{1, 3}	29.99	+0.00	30.18	8th	29.88	28th.
Honolulu ⁴	29.99	—0.01	30.10	2d	29.88	31st.
Juneau ⁴	29.93	—0.09	30.25	1st	29.40	21st.
Tatoosh Island ⁴	30.06	+0.05	30.29	19th	29.84	1st.
San Francisco ⁴	29.96	+0.02	30.08	18th	29.78	13th.
San Diego ⁴	29.90	+0.01	30.03	11th	29.75	31st.

¹ P. m. observations only.² For 27 days.³ For 30 days.⁴ A. m. and p. m. observations.⁵ Corrected to 24-hour mean.